SERVICE MANUAL

NAD

SERVICE SAFETY PRECAUTIONS (UL)

1. Use exact replacement parts for critical locations marked "⚠"
2. Return lead dress to original position and re-install protective covers.
3. Before returning to customer, test for shock hazard; use either mothod A or B:

A. Leakage test "cold":
   1. Unplug the AC cord; turn power switch ON.
   2. Connect one lead of High Voltage Insulation Tester to both prongs of the AC plug.
   3. Touch other lead to all exposed metal parts.
   4. Impedance measurement must be 0.3-5.0 Megohms.

B. Leakage test, "live" :
   1. Plug unit directly into the AC outlet: do not use isolation transformer.
   2. Connect one lead of the Leakage Current Tester to earth ground.
   3. Touch other lead to all exposed metal parts.
   4. Leakage measurement must be less than 0.5 milliamps.

616 CASSETTE TAPE DECK

616

CASSETTE TAPE DECK

CONTENTS

Page	
3	REAR/FRONT PANEL
4	SPECIFICATION
5-6	WIRING DIAGRAM
7	BLOCK DIAGRAM
8	CHASSIS-EXPLODED VIEW
9	CHASSIS-EXPLODED VIEW PARTS LIST
10	ADJUSTMENT PROCEDURE
11	ADJUSTMENT POINT
12	MICROPROCESSOR CONNECTION DIAGRAM
13-14	MICROPROCESSOR TERMINAL DESCRIPTION
15-16	PRINTED CIRCUIT BOARD
17-18	SCHEMATIC DIAGRAM
19-20	SCHEMATIC DIAGRAM
21-22	PRINTED CIRCUIT BOARD-PARTS LIST
23-24	TAPE MECHANISM-EXPLODED VIEW
25	IC BLOCK DIAGRAM
26	PRINTED CIRCUIT BOARD
27	PACKING VIEW

SERVICE SAFETY PRECAUTIONS

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2. Return lead dress to original position, and re-install protective covers.

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A. Leakage test, "cold":

1. Unplug AC cord, turn power switch ON.
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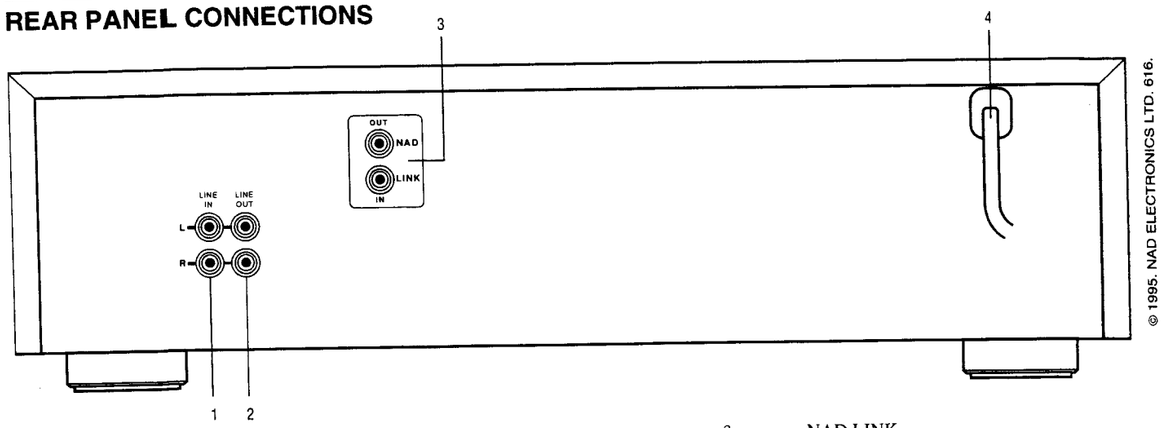
3. Touch other lead to all exposed metal parts.
4. Impedance measurement must be 0.3 - 5.0 Megohms.

B. Leakage test, "live":

1. Plug unit directly into AC outlet; do not use isolation transformer.
2. Connect one lead of Leakage Current Tester to earth ground.
3. Touch other lead to all exposed metal parts.
4. Leakage measurement must be less than 0.5 milliamps.

WARNING:TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

REAR PANEL CONNECTIONS

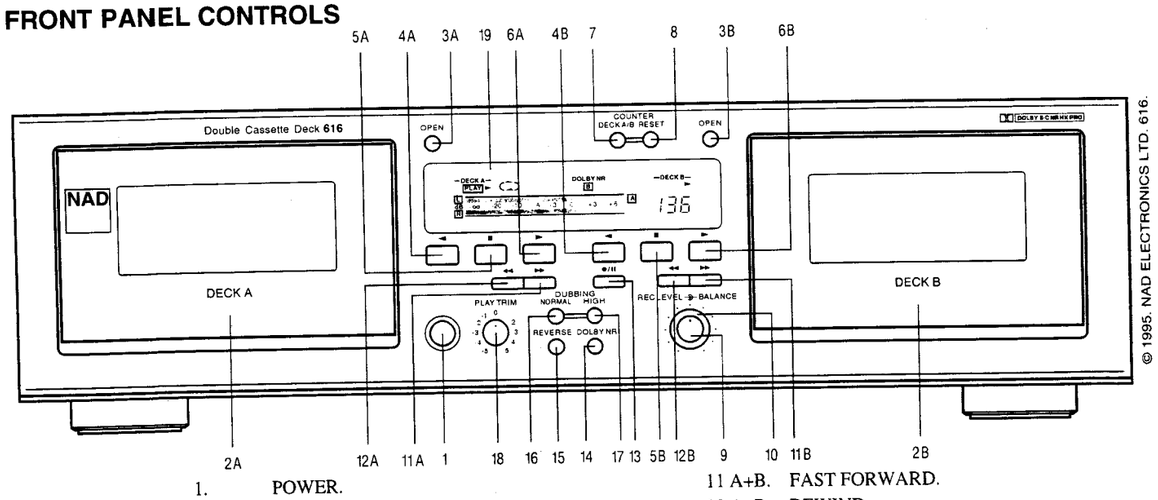


1. LINE IN.
2. LINE OUT.
3. NAD LINK.
4. POWER.

The lightning flash with arrowhead, within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

FRONT PANEL CONTROLS



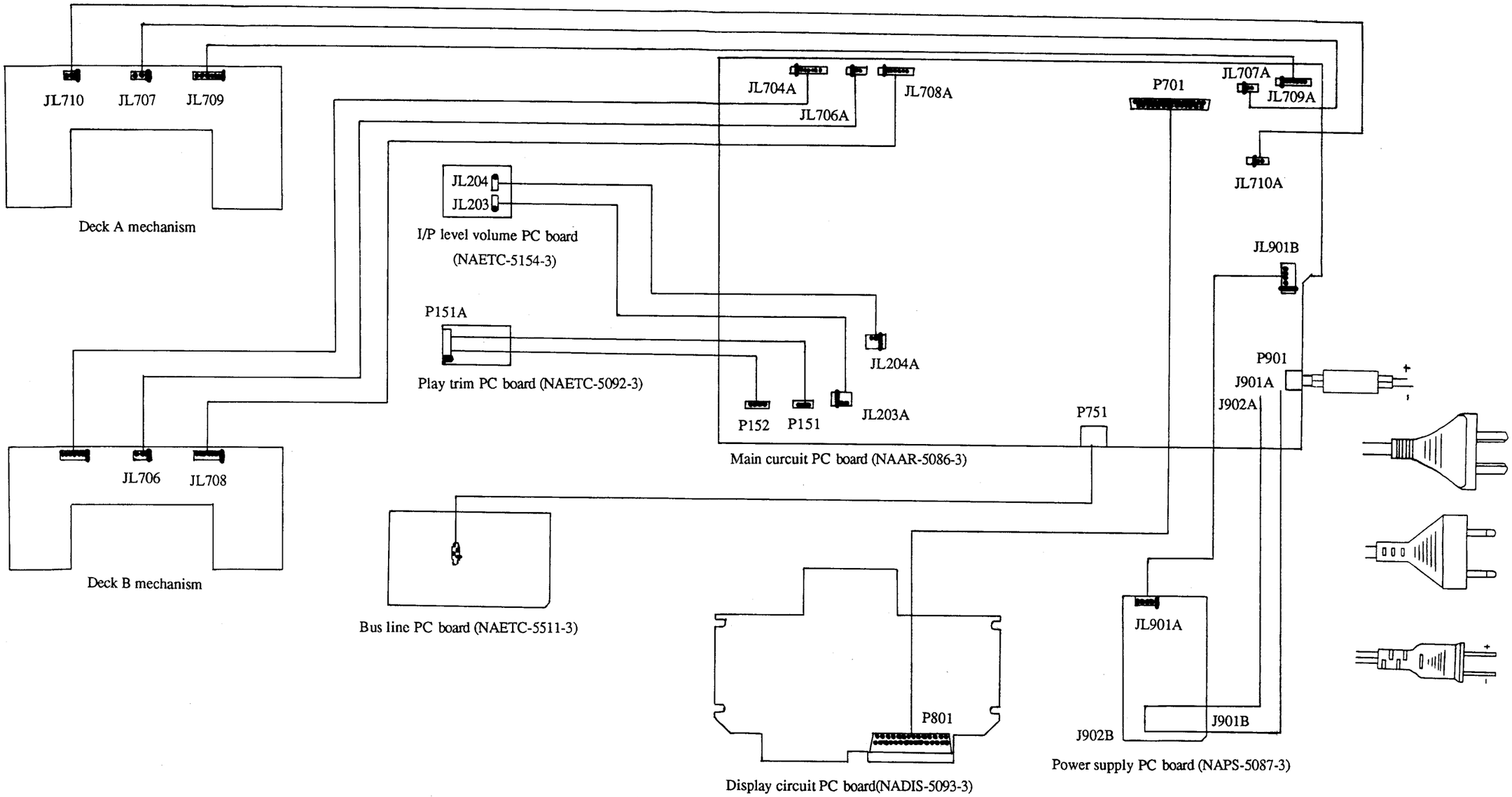
1. POWER.
2 A+B. CASSETTE COMPARTMENTS.
3 A+B. OPEN
4 A+B. REVERSE PLAY
5 A+B. STOP.
6 A+B. PLAY.
7. DECK A/B(TAPE COUNTER SELECTOR).
8. RESET.
9. RECORD LEVEL.
10. BALANCE.
11 A+B. FAST FORWARD.
12 A+B. REWIND.
13. RECORD/PAUSE.
14. DOLBY NR.
15. REVERSE MODE.
16. DUBBING.
17. HI SPEED DUBBING.
18. PLAY TRIM.
19. DISPLAY.

SPECIFICATIONS

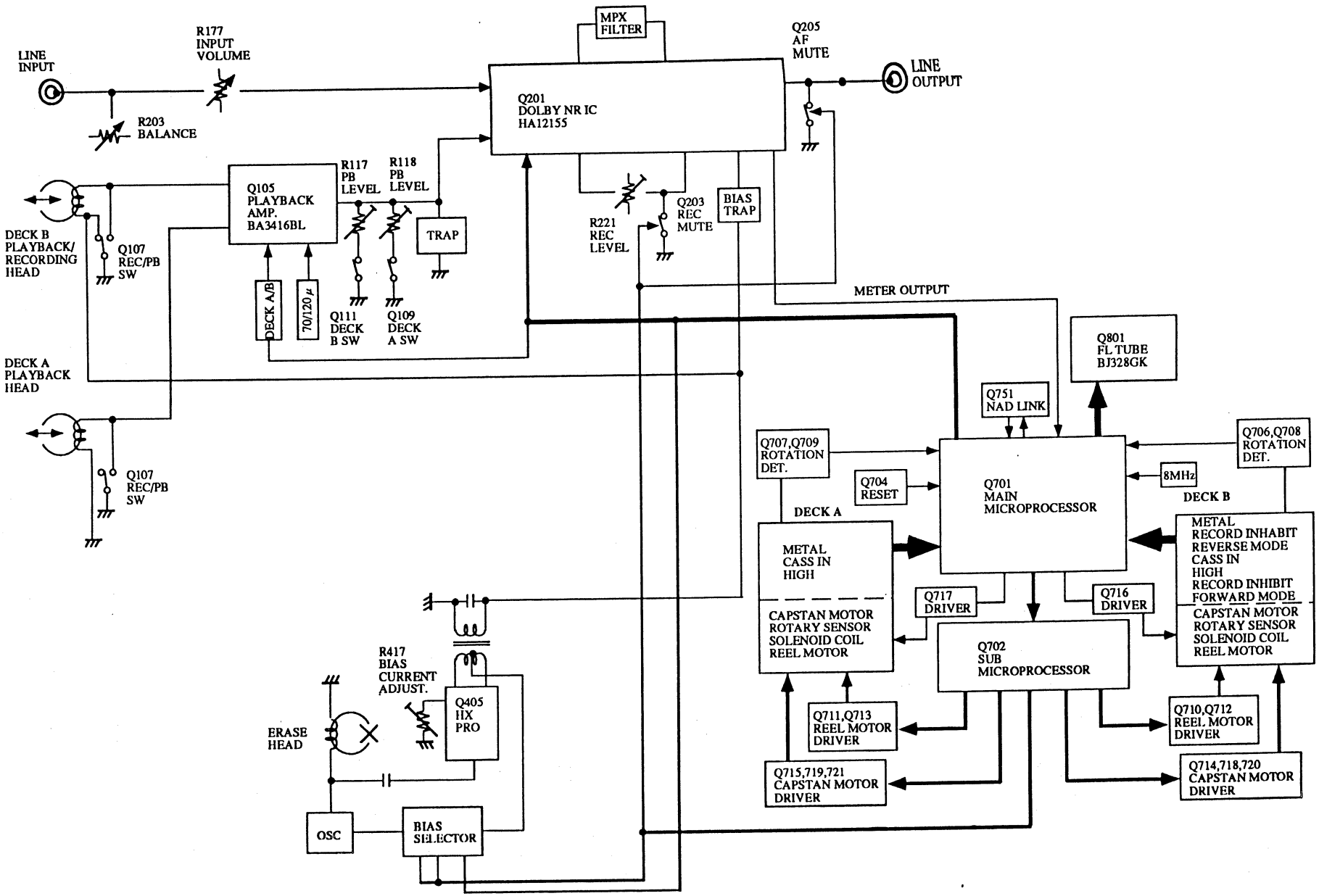
Track Format:	4-track, 2-channels
Erasure System:	AC erase
Tape Speed:	4.8 cm/sec. (1-7/8 i.p.s.) 9.6 cm/sec. (3-3/4 i.p.s.) (high-speed dubbing)
Wow and Flutter:	0.07 % (WRMS)
Frequency Response:	20 — 15,000 Hz (Normal) (30 — 14,000 Hz ± 3 dB) 20 — 16,000 Hz (High) (30 — 15,000 Hz ± 3 dB) 20 — 17,000 Hz (Metal) (30 — 16,000 Hz ± 3 dB)
S/N Ratio:	Dolby NR off: 58 dB (metal position tape) A noise reduction of 10 dB above 5 kHz and 5 dB at 1 kHz is possible with Dolby B NR. A noise reduction of 20 dB at 5 kHz is possible with Dolby C NR.
Input Jacks:	Line IN: 2 Input sensitivity: 80 mV Input impedance: 50 kohms
Outputs:	Line OUT: 2 Standard output level: 500 mV (0 dB) Optimum load impedance: over 50 kohms
Motors:	DC servo motor × 2, DC motor × 2
Heads:	REC/PB: 1 PB: 1 ERASE: 1
Power Supply:	European and Australian models: AC 230V, 50 Hz U.S.A. and Canadian models: AC 120V, 60 Hz
Power Consumption:	230V/0.16A 120V/0.32A
Dimensions:	435(W) × 125(H) × 310(D) mm
Weight:	5.8kg.(12.8 lbs.)

Specifications and external appearance are subject to change without notice because of product improvements.

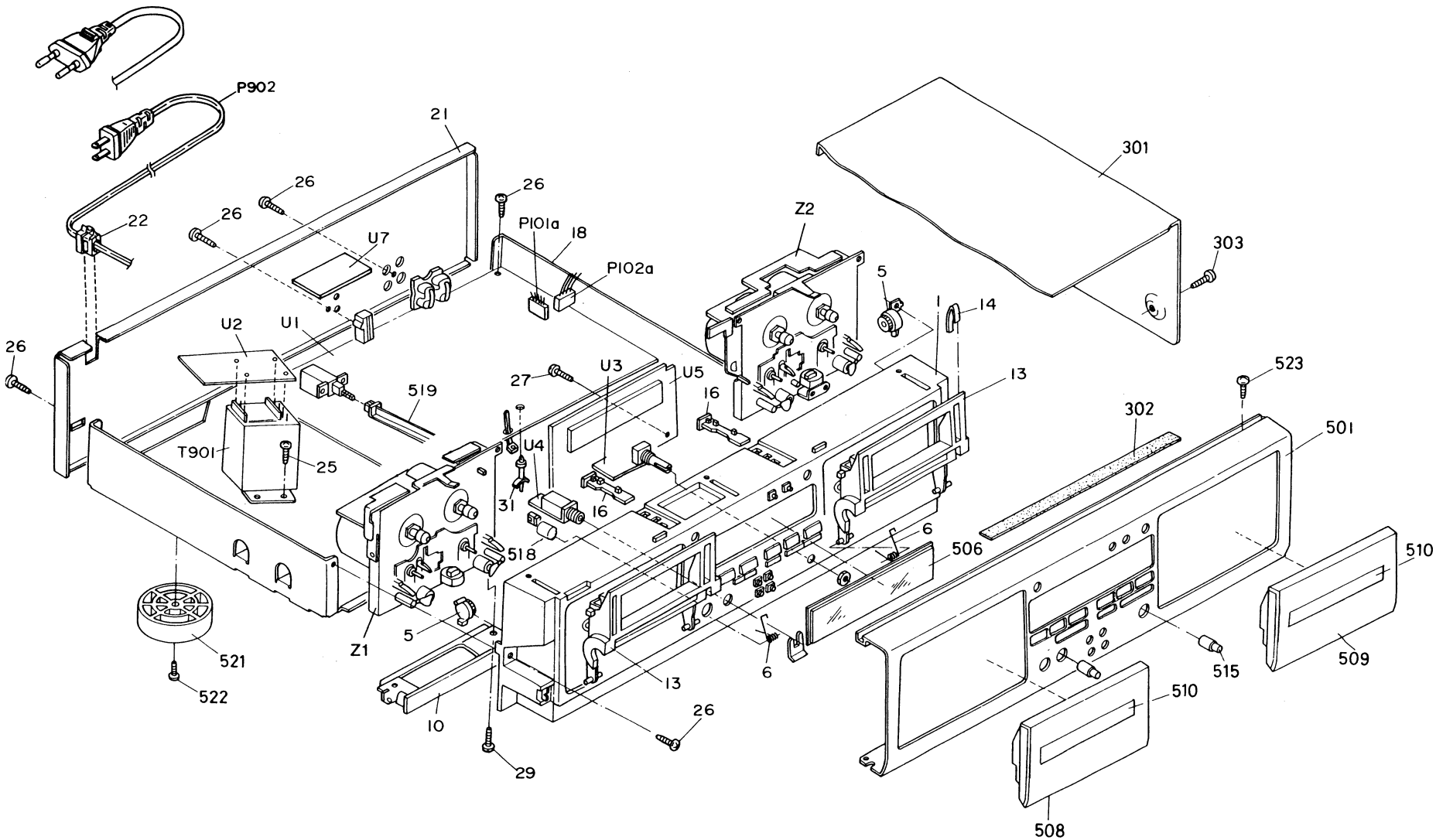
WIRING DIAGRAM



IBLOCK DIAGRAM



CHASSIS-EXPLODED VIEW



PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
1	27110884Y	Front bracket ass'y
5	28400282	Damper
6	27180477A	Spring A
10	27130741Y	Bracket F
13	27301792AY	Cassette frame
14	27180435	Spring
16	28325120Y	Knob,eject
18	27100295Y	Chassis
19	27130747Y	Bracket PC board
21	27122072AY	Rear panel <AH>
	27122073Y	"Rear panel <B,B1,C>
22	27300750	⚠ Cord bushing
25	830440069	4TTC+6C(BC), Self-tapping screw
26	838130088	3TTB+8B, Self-tapping screw
27	833430080	3TTP+8P(BC), Self-tapping screw
28	838130088	3TTB+8B, Self-tapping screw
29	835430068	3TTF+6B(BC), Self-tapping screw
31	27190480-1Y	PCB-8L,Holder
301	28184587AY	Top cover
302	28140837	Cushion
303	838430088	3TTB+8B(BC),Self-tapping screw
501	27211709AY	Front panel
506	28191710Y	Clear plate
508	27301864Y	Cassette lid A
509	27301865Y	Cassette lid B
510	28191715Y	Window
515	28325121Y	Knob(Rec)
516	28325122Y	Knob(Bal)
517	28324986	Knob(Bal)
518	28325124Y	Knob(Pow)
519	27273135BY	Joint
521	27175292Y	Leg ass'y
522	838130088	3TTB+8B, Self-tapping screw
523	833430080	3TTP+8P(BC), Self-tapping screw
524	833430088	3TTP+8B(BC), Self-tapping screw

REF. NO.	PART NO.	DESCRIPTION
P101a	2009990350ULY	NSAS-6P0487,Socket for deck A
P102a	2009990315ULY	NSAS-14P0449,Socket for deck B
P902	253192HIT	⚠ AS-UC-6#18,Power supply cord <AH>
	253198HIT	⚠ AS-BS, Power supply cord <B>
	253197HIT	⚠ AS-SAA, Power supply cord <B1>
	253193HIT	⚠ AS-CEE, Power supply cord <C>
T901	2301049Y	⚠ NPT-1223D,Power transformer <AH>
	2301050Y	⚠ NPT-1223P,Power transformer <B,B1,C>
U1	1N219586-3Y	NAAR-5086-3, Main circuit pc board ass'y
U2	1N219587-3Y	NAPS-5087-3, Power supply pc board ass'y
U3	1N219592-3Y	NAETC-5092-3, Play trim pc board ass'y
U4	1N219554-3Y	NAETC-5154-3, I/P level volume pc board ass'y
U5	1N219593-3Y	NADIS-5093-3, Display circuit pc board ass'y
U7	1N219511-3Y	NAETC-5511-3, Bus line pc board ass'y
W701	2047291512Y	NCFC-291512,Flat cable
Z1	244196Y	NDM-187,Deck mechanism ass'y
Z2	244197Y	NDM-188,Deck mechanism ass'y

NOTE: <AH> : U.S.A., Canadian model only
<B> : U.K. model only
<B1> : Australian model only
<C> : European model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

ADJUSTMENT PROCEDURES

PRECAUTIONS

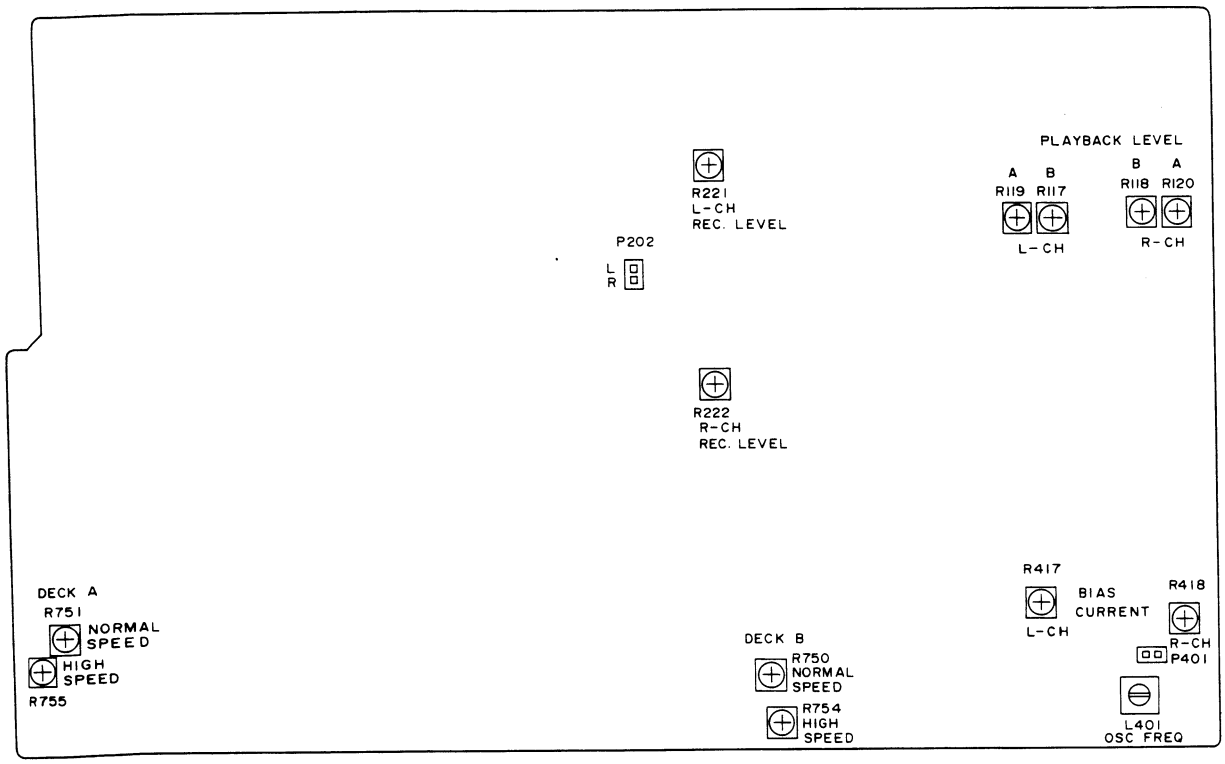
1. ***Before adjustment, clean the following parts with an alchol moistend swab.***
   - ***record/playback head**
   - ***erase head**
   - ***pinch roller**
   - ***capstan**
2. ***Do not use magnetized screwdriver for adjustments.***
3. ***Demagnetize record/playback head with a head demagnetizer.***

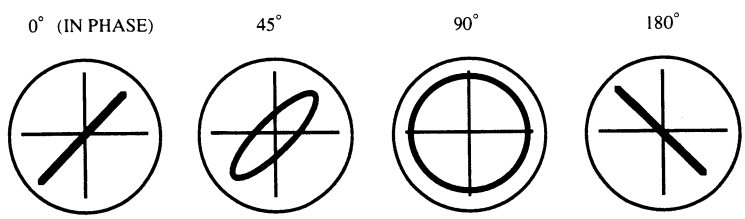
TEST EQUIPMENT/TOOLS REQUIRED:

Audio oscillator
Digital frequency counter
Oscilloscope
Attenuator
AC voltmeter
Non-magnetic screwdriver
Test tapes
TCC-153 ***:10kHz, −15dB***
MTT-111 ***:3kHz, −10dB***
MTT-150 ***:Dolby level calibration 400Hz, tone 200nWb/m***

Tape speed adjustment
Connect the digital frequency counter to the line output terminal.
Load the test tape MTT-111 into the cassette holder .
Connect the test point J285 to the ground to put the unit into test mode.
Press the forward play button twice to put the unit into high speed mode.
Adjust the trim resistors R755(Deck A) and R754(Deck B) so that the frequency counter reading becomes 6000Hz to 6020Hz.
Press the forward play button to put the unit into normal speed mode.
Adjust the trim resistors R751(Deck A) and R750(Deck B) so that the frequency counter reading becomes 3000Hz to 3010Hz.

Item	Connection of instrument	Line input	Test tape	Mode	Output indicator	Adjustment point	Adjust for	Remarks
Head azimuth	AC voltmeter and oscilloscope to output terminal		TCC-153	Playback	AC voltmeter and Oscilloscope Fig.3	Head azimuth screw Foward:Left side Reverse:Right side	Maximum output with minimum phase error	Figure 1
Playback level	AC voltmeter to test point P202		MTT-150	Playback	AC voltmeter	Deck A R119(Left channel) R120(Right channel) Deck B R117(Left channel) R118(Right channel)	300mV	
Oscillator block	Frequency counter to test point P401		Metal tape XS-C90	Stop	Frequency counter	L401	107±2kHz	Test mode When you press the stop key the deck goes into metal position recording mode.
Bias current	Figure 2	1kHz, -23dB and 12kHz, -23dB	UD-1 C-90	Record				Record 5s at 1kHz then 5s at 12kHz.
				playback	AC voltmeter	R417(Left channel) R418(Right channel)	O/P level of both tones within 1dB	Repeat RECORD/PLAY procedure until correctly adjusted.
Recording level	Figure 2	1kHz 350mV	UD-1 C-90	Recording	AC voltmeter	Attenuator	350mV	Repeat RECORD/PLAY procedure until correctly adjusted.
				Recording/ playback	AC voltmeteer	R221(Left channel) R222(Right channel)	Signals of recording and playback become same level.	





Confirming phase relationship

Fig.1

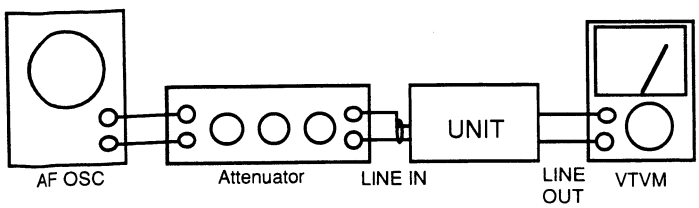


Fig. 2

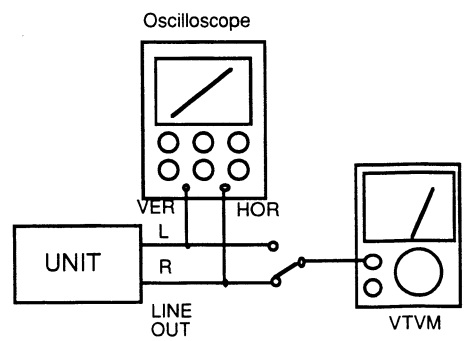
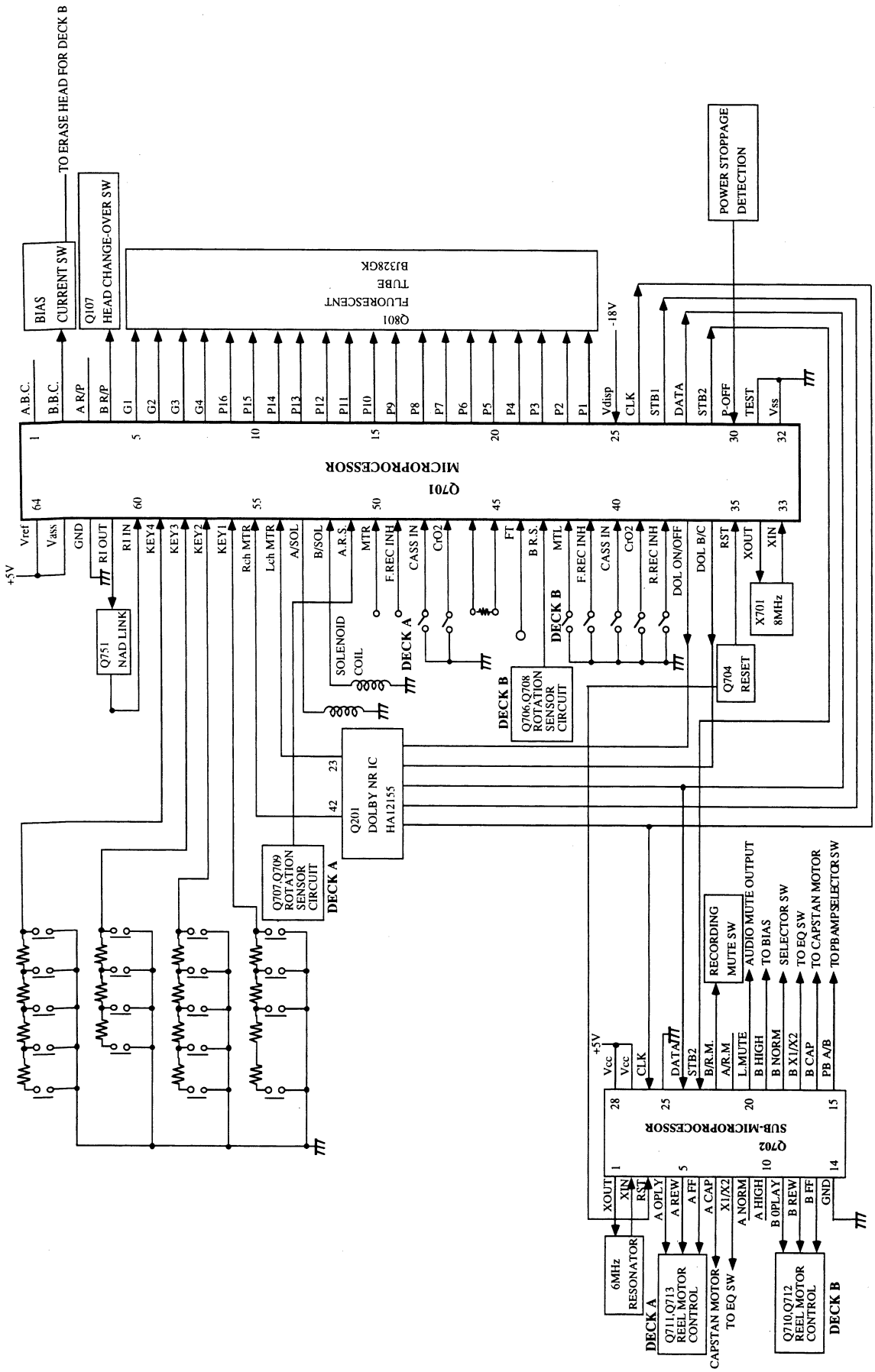


Fig.3

MICROPROCESSOR-CONNECTION DIAGRAM


TO ERASE HEAD FOR DECK B
BIAS CURRENT SW
Q107 HEAD CHANGE-OVER SW
Q801 FLUORESCENT TUBE B1328GK
POWER STOPPAGE DETECTION
Q701 MICROPROCESSOR
A.B.C.
B.B.C.
A R/P
B R/P
G1 G2 G3 G4 P16 P15 P14 P13 P12 P11 P10 P9 P8 P7 P6 P5 P4 P3 P2 P1
Vdisp -18V
CLK STB1 DATA STB2 P-OFF TEST Vss
Vref Vass GND R1 OUT R1 IN KEY4 KEY3 KEY2 KEY1 Rch MTR Lch MTR A/SOL B/SOL A.R.S. MTR F.REC INH CASS IN CrO2 FT B R.S. MTL F.REC INH CASS IN CrO2 R.REC INH DOL ON/OFF DOL B/C RST XOUT XIN
+5V
Q751 NAD LINK
SOLENOID COIL
DECK A
DECK B
Q706,Q708 ROTATION SENSOR CIRCUIT
Q704 RESET
X701 8MHz
Q201 DOLBY NR IC HA12155
Q707,Q709 ROTATION SENSOR CIRCUIT
Q702 SUB-MICROPROCESSOR
Vcc Vcc CLK DATA STB2 B/R.M. A/R.M L.MUTE B HIGH B NORM B X1/X2 B CAP PB A/B
RECORDING MUTE SW
AUDIO MUTE OUTPUT
TO BIAS
SELECTOR SW
TO EQ SW
TO CAPSTAN MOTOR
TO PB AMP SELECTOR SW
XOUT XIN RST A OPLY A REW A FF A CAP X1/X2 A NORM A HIGH B OPLAY B REW B FF GND
6MHz RESONATOR
Q711,Q713 REEL MOTOR CONTROL
TO CAPSTAN MOTOR
TO EQ SW
Q710,Q712 REEL MOTOR CONTROL

MICROPROCESSOR-TERMINAL DESCRIPTIONS

MAIN MICROPROCESSOR

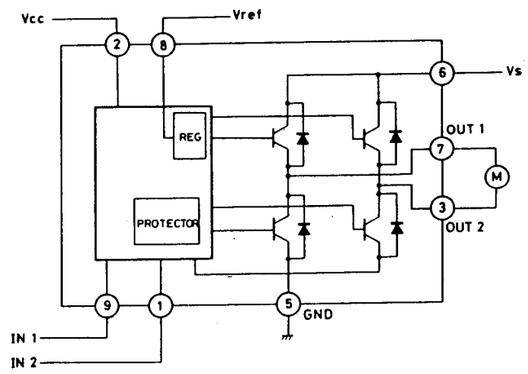
Pin No.	Terminal	Description
1	A B.C.	Bias current change-over control output pin for Deck A
2	B B.C.	Bias current change-over control output pin for Deck B
3	A R/P	Recording/playback head change-over output pin for Deck A
4	B R/P	Recording/playback head change-over output pin for Deck B
5	G1	Grid output pin
6	G2	Grid output pin
7	G3	Grid output pin
8	G4	Grid output pin
9	P16	Segment output pin
10	P15	Segment output pin
11	P14	Segment output pin
12	P13	Segment output pin
13	P12	Segment output pin
14	P11	Segment output pin
15	P10	Segment output pin
16	P9	Segment output pin
17	P8	Segment output pin
18	P7	Segment output pin
19	P6	Segment output pin
20	P5	Segment output pin
21	P4	Segment output pin
22	P3	Segment output pin
23	P2	Segment output pin
24	P1	Segment output pin
25	Vdisp	
26	CLK	Clock output pin
27	STB1	Strobe output pin
28	DATA	Data output pin
29	STB2	Strobe output pin.
30	P-OFF	Detection input pin for stoppage of electric current
31	TEST	Test pin
32	Vss	Power supply terminal

Pin No.	Terminal	Description
33	XIN	Ceramic resonator connection pin
34	XOUT	Ceramic resonator connection pin
35	RST	Reset input
36	DOL B/C	Dolby B/C change-over output pin
37	DOL ON/OFF	Dolby change-over output pin
38	R.REC INH	Recording inhibiting detection input pin for reverse side of Deck B.
39	CrO2	High position detection input pin for reverse side of Deck B.
40	CASS IN	Cassette tape detection input pin for reverse side of Deck B.
41	F.REC INH	Recording inhibiting detection input pin for forward side of Deck B.
42	MTL	Metal position detection input pin for reverse side of Deck B.
43	B R.S.	Rotation detection input pin for reel stand of Deck B.
44	FT	Adjustment mode input pin
47	CrO2	High position detection input pin for reverse side of Deck A.
48	CASS IN	Cassette tape detection input pin for reverse side of Deck A.
49	F.REC INH	Recording inhibiting detection input pin for forward side of Deck A.
50	MTL	Metal position detection input pin for reverse side of Deck A.
51	A.R.S.	Rotation detection input pin for reel stand of Deck A.
52	B/SOL	Solenoid coil drive output pin of Deck B
53	A/SOL	Solenoid coil drive output pin of Deck A
54	Lch mot	Input pin for level meter of left channel
55	Rch mot	Input pin for level meter of right channel
56	KEY1	Operation key connection pin
57	KEY2	Operation key connection pin
58	KEY3	Operation key connection pin
59	KEY4	Operation key connection pin
60	RI IN	Bus signal input pin
61	RI OUT	Bus signal output pin
62	GND	Ground terminal
63	Vass	Power supply pin
64	Vref	Power supply pin

SUB-MICROPROCESSOR

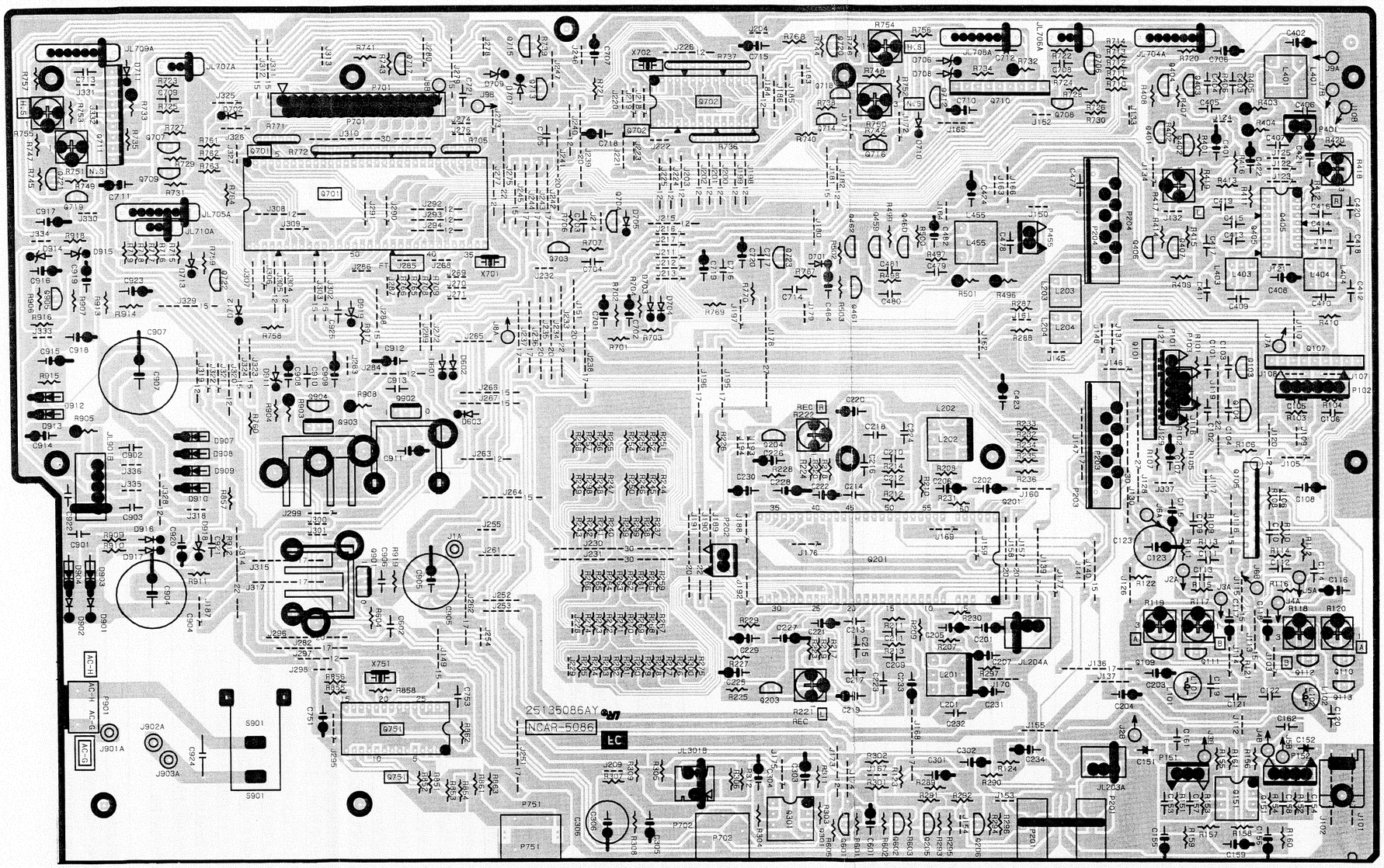
Pin No.	Function	Description
1	XOUT	Ceramic resonator connection pins
2	XIN	Connect the 6.0MHz ceramic resonator.
3	RST	System reset input pin
4	A OPLY	Reel motor control output pin for Deck A
5	A REW	Rewind control output pin for Deck A
6	A FF	Fast forward control output pin for Deck A
7	A CAP	Capstan motor control output pin for Deck A
8	A X1/X2	Capstan motor rotation speed control output for deck A
9	A NORM	Recording equalizer and bias current selector output pin for deck A
10	A HIGH	Recording equalizer and bias current selector output pin for deck A
11	B OPLY	Reel motor control output pin for Deck B
12	B REW	Rewind control output pin for Deck B
13	B FF	Fast forward control output pin for Deck B
14	GND	Ground pin
15	PB A/B	Playback amplifier selector pin
16	B CAP	Capstan motor control output pin for Deck B
17	B X1/X2	Capstan motor rotation speed control output for deck B
18	B NORM	Recording equalizer and bias current selector output pin for deck B
19	B HIGH	Recording equalizer and bias current selector output pin for deck B
20	L.MUTE	Audio muting control output pin
21	A/R.M.A.	Recording muting control pin for deck A
22	B/R.M.	Recording muting control pin for deck B
23	STB2	Strobe input pin
24	DATA	Data input pin
25		
26	CLK	Clock input pin
27	Vcc	Power supply pin
28	Vcc	Power supply pin

TA-7291S (MOTOR DRIVE)

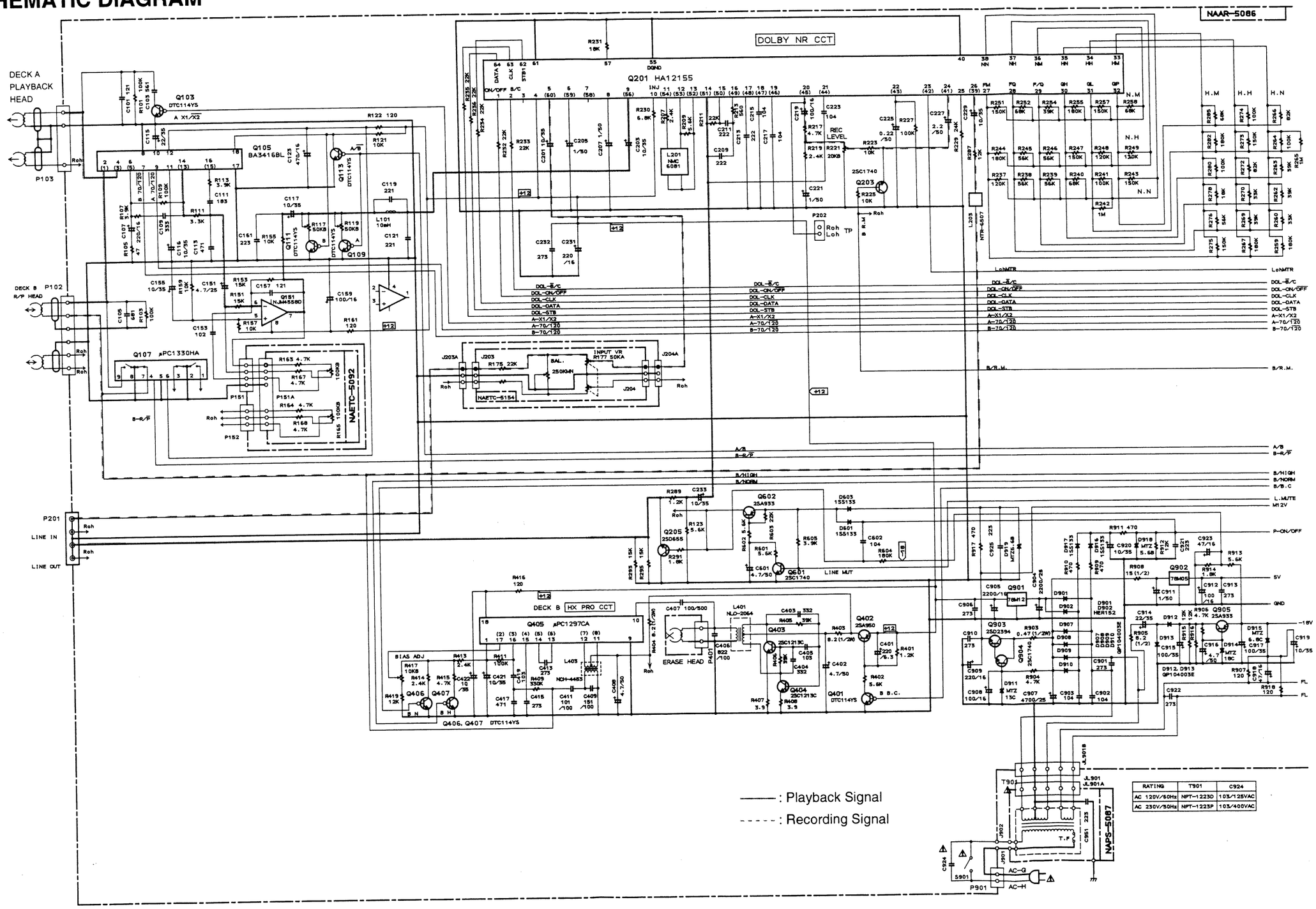


INPUT		OUTPUT		MODE
IN 1	IN 2	OUT 1	OUT 2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM

NAAR-5066

NOTE
- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ⊐ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (-#-) ARE IN μF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED. EX)030=3pF, 330=33pF, 331=330pF, 333=0.033μF
- ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.
- THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS. EX) ▬▬ PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

NCETC-5510
NCETC-5511

Q701 TMP87CH14N-1139

TMP47C103N-J794

Q751 HD404222C81S

Q801 BJ246GK

NADIS-5093

DECK A MECHA

DECK B MECHA

PRINTED CIRCUIT BOARD-PARTS LIST

MAIN CIRCUIT PC BOARD (NAAR-5086-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q105	22240767	BA3416BL
Q107	22240147	µPC1330HA
Q151	222811	NJM4558D-D
Q201	22240544	HA12155NT
Q405	222959	µPC1297CA
Q701	22240822	TMP87CH14N-1139
Q702	22240823	TMP47C103N-J794
Q710,Q711	22240239	TA7291S
Q751	22240844	HD404222C81S
Q901	222780125MIT	78M12
Q902	222780055NEC	78M05HF
	Transistors	
Q103,Q104	221281	DTC114YS
Q109-Q113	221281	DTC114YS
Q203,Q204	2213284 or	2SC1740S-R or
	2213285	2SC1740S-S
Q205,Q206	2211705 or	2SD655-E or
	2211706	2SD655-F
Q401	221281	DTC114YS
Q402	2211504	2SA950-Y
Q403,Q404	2201883	2SC1213-C
Q406,Q407	221281	DTC114YS
Q601	2213284 or	2SC1740S-R or
Q706,Q707	2213285	2SC1740S-S
Q602,Q905	2213354 or	2SA933S-R or
	2213355	2SA933S-S
Q703,Q722	2213090	DTA114YS
Q704	221281	DTC114YS
Q708,Q709	221281	DTC114YS
Q712,Q713	221281	DTC114YS
Q714-Q717	2211705 or	2SD655-E or
	2211706	2SD655-F
Q718,Q719	221281	DTC114YS
Q720,Q721	2211945 or	2SK246-GR or
	2212304	2SK381-D
Q723	221281	DTC114YS
Q903	2202705 or	2SD2394-E
	2202706	2SD2394-F
Q904	2213285 or	2SC1740S-S or
	2213284	2SC1740S-R
	Diodes	
D601,D603	223163	1SS133
D702	223163	1SS133
D704,D705	223163	1SS133
D706,D707	224450752	MTZ7.5B, Zener
D708,D709	224450472	MTZ4.7B, Zener
D710-D711	223163	1SS133
D901,D902	22380031	HER152
D907-D910	22380035	GP104003E
D911	224451303	MTZ13C, Zener
D912,D913	22380035	GP104003E
D914	224451803	MTZ18C, Zener
D915	224470683	MTZJ6.8C, Zener
D916,D917	223163	1SS133
D918,D919	224450562	MTZ5.6B, Zener

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L101,L102	231089	NCH-2137, CHOKE
L201,L202	233436	NMC-6081, MPX
L203,L204	231221	NTR-6507, TRAP
L401	231223	NLO-2064, OSC
L403,L404	231218	NCH-4453, CHOKE
	Resonators	
X701	3010190	CST8.00MTW, Ceramic
X702	3010149	CST6.00MGW, Ceramic
X751	3010163	CST4.19MGW
	Capacitors	
C103,C104	374725614	560pF±5%,50V,Plastic
C105,C106	374726814	680pF±5%,50V,Plastic
C107,C108	354742219	220µ F,16V,Elect.
C109,C110	374723334	0.033µ F±5%,50V,Plastic
C111,C112	374721834	0.018µ F±5%,50V,Plastic
C115	354762209	22µ F,35V,Elect.
C116-C118	354761009	10µ F,35V,Elect.
C123	354744719	470µ F,16V,Elect.
C151,C152	352950476	4.7≠ F,25V ,Non Pola Elect
C153,154	374721024	0.01µ F±5%,50V,Plastic
C155,C156	354761009	10µ F,35V,Elect.
C159	354741019	100µ F,16V,Elect.
C201-C204	354761009	10µ F,35V,Elect.
C205-C207	354780109	1µ F,50V,Elect.
C209-C214	374722224	2200pF±5%,50V,Plastic
C215-C218	374721044	0.1µ F±5%,50V,Plastic
C219,C220	354741019	100µ F,16V,Elect.
C221,C222	354780109	1µ F,50V,Elect.
C223,C224	374721044	0.1µ F±5%,50V,Plastic
C225,C226	354782299	0.22µ F,50V,Elect.
C227,C228	354780229	2.2µ F,50V,Elect.
C229,C230	354761009	10µ F,35V,Elect.
C231	354742219	220µ F,16V,Elect.
C232	374722734	0.027µ F±5%,50V,Plastic
C233,C234	354761009	10µ F,35V,Elect.
C401	354722219	220µ F,6.3V,Elect.
C402	354780479	4.7µ F,50V,Elect.
C403,C404	374723324	3300pF±5%,50V,Plastic
C405	374721034	0.01µ F±5%,50V,Plastic
C406	370138224	8200pF±5%,100V,Plastic
C408	354780479	4.7µ F,50V,Elect.
C409,C410	370131514	150pF±5%,100V,Plastic
C411,C412	370131014	100pF±5%,100V,Plastic
C413-C416	374722734	0.027µ F±5%,50V,Plastic
C417,C418	374724714	470pF±5%,50V,Plastic
C419,C420	374721034	0.01µ F±5%,50V,Plastic
C421,C422	354761009	10µ F,35V,Elect.
C601	354780479	4.7µ F,50V,Elect.
C602	37421044	0.1µ F±5%,50V,Plastic
C702	354761009	10µ F,35V,Elect.
C704	374721044	0.1µ F±5%,50V,Plastic
C706,C707	354721019	1µ F,50V,Elect.
C710,C711	354741019	100µ F,16V,Elect.
C715,C720	354780109	1µ F,50V,Elect.
C901,C906	374722734	0.027µ F±5%,50V,Plastic

CIRCUIT NO.	PART NO.	DESCRIPTION
C902,C903	374721044	0.1µ F±5%,50V,Plastic
C904	393352227	2200µ F,25V,Elect.
C905	393342227	2200µ F,16V,Elect.
C907	393354727	4700µ F,25V,Elect.
C908,C912	354741019	100µ F,16V,Elect.
C909	354742219	220µ F,16V,Elect.
C910,C913	374722734	0.027µ F±5%,50V,Plastic
C911	354780109	1µ F,50V,Elect.
C914	354762209	22µ F,35V,Elect.
C915,C917	354761019	100µ F,35V,Elect.
C916	354780479	4.7µ F,50V,Elect.
C918,C923	354744709	47µ F,16V,Elect.
C919,C920	354761009	10µ F,35V,Elect.
C922	374722734	0.027µ F±5%,50V,Plastic
C924	3500191	DE7150FZ103P, AC400V/125V, IS
	Resistors	
R117-R120	5210265	N06HR50KBC, Trimming
R221,R222	5210263	N06HR20KBC, Trimming
R403,R404	453530824	8.2Ω±5%,1/2W,Metal
R417,R418	5210262	N06HR10KBC, Trimming
R705	49163392404	RM1/10IJ, 3.9K , Array
R732,R733	443524704	47Ω±5%,1/2W,Metal oxide
R736	49163392408	RM1/10IJ, 3.9K × 8, Array
R737	49163392410	RM1/10IJ, 3.9K × 10, Array
R750,R751	5210263	N06HR20KBC, Trimming
R754,R755	5210262	N06HR10KBC, Trimming
R903	453534794	0.47Ω±5%,1/2W,Metal
R905	453530824	8.2Ω±5%,1/2W,Metal
R908	443521504	15Ω±5%,1/2W,Metal oxide
	Plugs	
P102	25055136	NPLG-6P120
P103	25055133	NPLG-3P117
P151	25055133	NPLG-3P117
P152	25055134	NPLG-4P118
P202	25055038	NPLG-2P29
P401	25055132	NPLG-2P116
P901	25055675	NPLG-2P631
	25055038	NPLG-2P29
	Socket	
P701	25050861	NSCT-29P656
	Wire traps	
JL203a,JL204a	25050267	NSCT-3P95
JL901b	25050269	NSCT-5P97
P651B	25055624	NPLG-3P586
	Wire holders	
JL704a		25051101 NSCT-7P888
JL706a,JL707a	25051097	NSCT-3P884
JL708a,JL709a	25051101	NSCT-7P888
JL710a	25051097	NSCT-3P884
	Terminal	
P201	25045329	NPJ-4PDBL183
	Switch	
S901 ⚠	25035636	NPS-111-L590P

POWER SUPPLY PC BOARD (NAPS-5087-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Wire holder	
JL901a	25051109	NSCT-5P896, Wire holder

PLAY TRIM PC BOARD (NAETC-5092-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistor	
R165	5104350	N09RGLC100KB15M, Variable
	Socket	
P151A	2009990355UL	NSAS-14P0492

DISPLAY PC BOARD (NADIS-5093-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q801	212130	BJ328GK
	Switches	
S801-S803	25035652	NPS-111-S604, P SW
S806,S807	25035652	NPS-111-S604, P SW
S810-S821	25035652	NPS-111-S604, P SW
	Socket	
P801	25050893	NSCT-29P688
	Holder	
	27190939Y	FL

I/P LEVEL VOLUME PC BOARD (NAETC-5154-3)

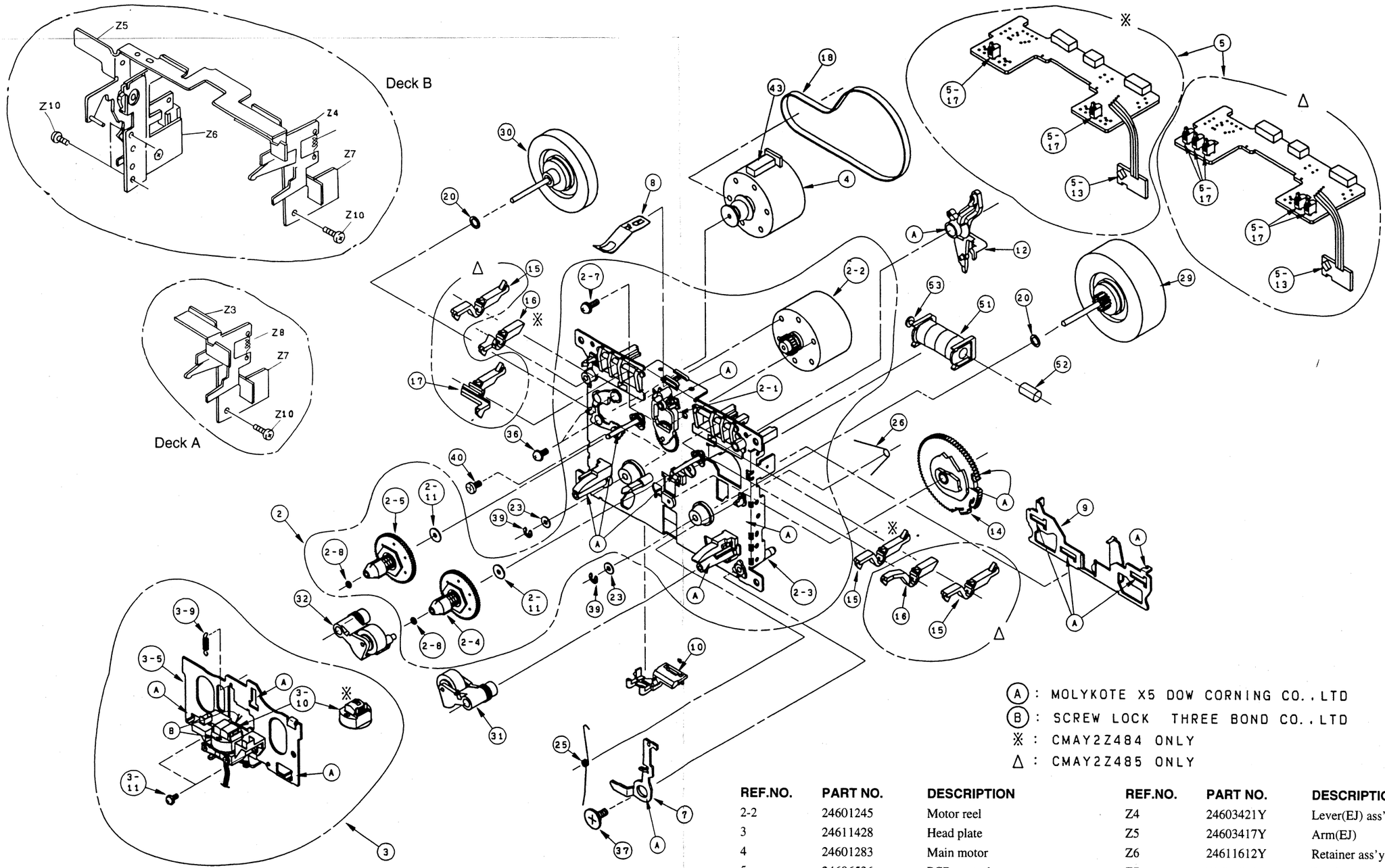
CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistor	
R177	5104351	N09RDQLC250KMN25M, Variable

BUS LINE PC BOARD (NAETC-5511-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q651	22240936	Z86C0812PSC
	Transistors	
Q652,Q654	2213355 or	2SA933S-S or
	2213354	2SA933S-R
Q653	2213285 or	2SA1740S-S or
	2213284	2SA1740S-R
	Diodes	
D651,D652	223163	1SS133
	Coil	
X651	3010252	CST12.0MTW, Ceramic
	Capacitor	
C651	354761009	10µ F,35V,Elect.
	Wire holder	
P651A	25051087	NSCT-3P874
	Terminal	
P652	25045395	NPJ-2PDYE221

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

MECHANISM-EXPLODED VIEW

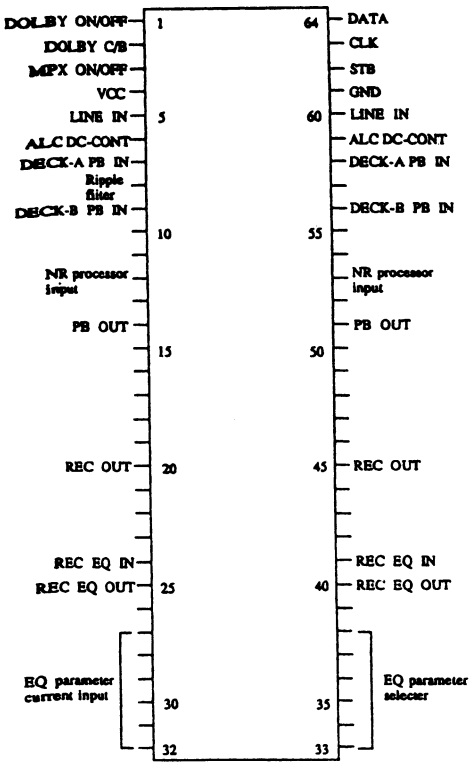


(A) : MOLYKOTE X5 DOW CORNING CO., LTD
(B) : SCREW LOCK THREE BOND CO., LTD
※ : CMAY2Z484 ONLY
△ : CMAY2Z485 ONLY

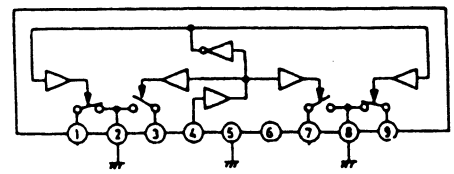
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
2-2	24601245	Motor reel	Z4	24603421Y	Lever(EJ) ass'y, Deck B
3	24611428	Head plate	Z5	24603417Y	Arm(EJ)
4	24601283	Main motor	Z6	24611612Y	Retainer ass'y (L)
5	24606536	PCB control	Z7	24611614Y	Retainer ass'y (R)
18	24602551	Main belt	Z8	24605803Y	Spring
31	24602541	Pinch roller	Z9	8930301Y	Ring(E)
32	24602589	Pinch roller	Z10	833126047Y	2.6TTP+4S, Screw
Z3	24603415Y	Lever(EJ) ass'y, Deck A	Z11	82212005Y	2S+5F, Screw

IC BLOCK DIAGRAM

HA12155NT (DOLBY NR)



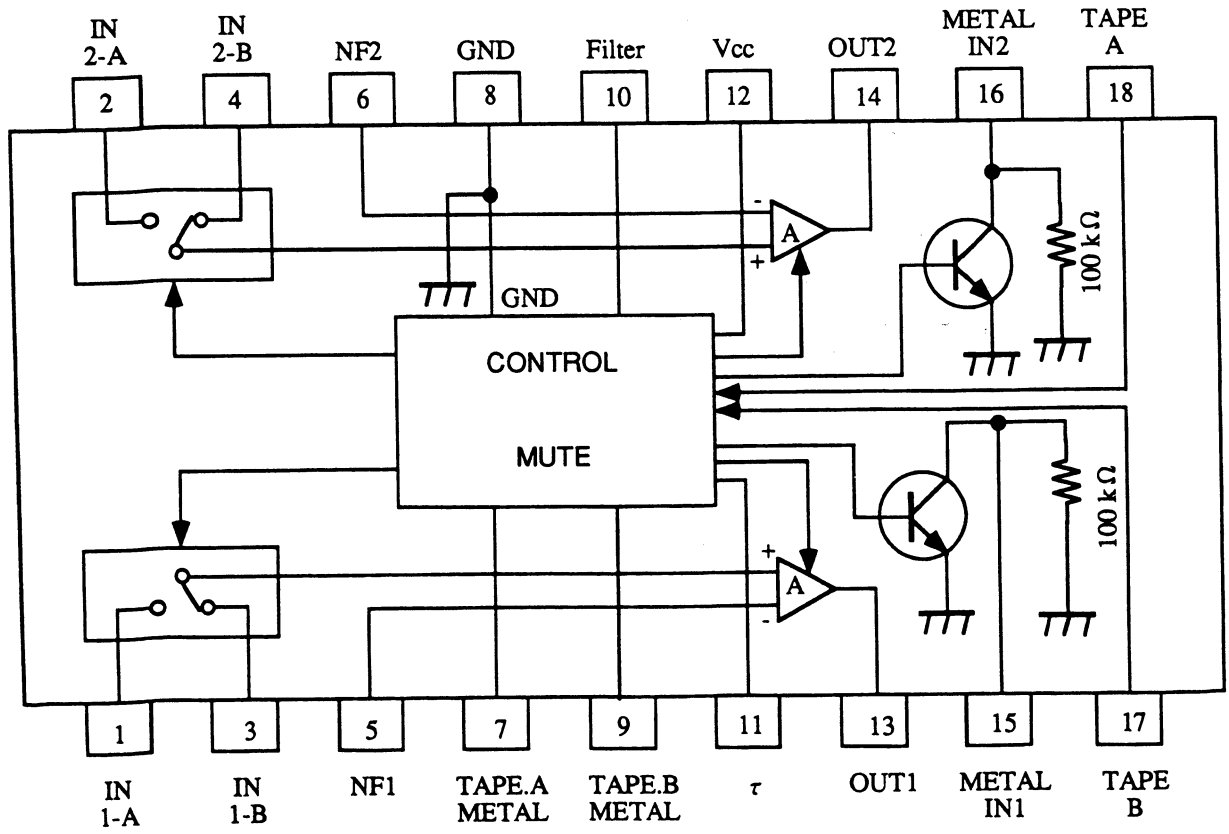
μPC1330HA (REC/PB SW)



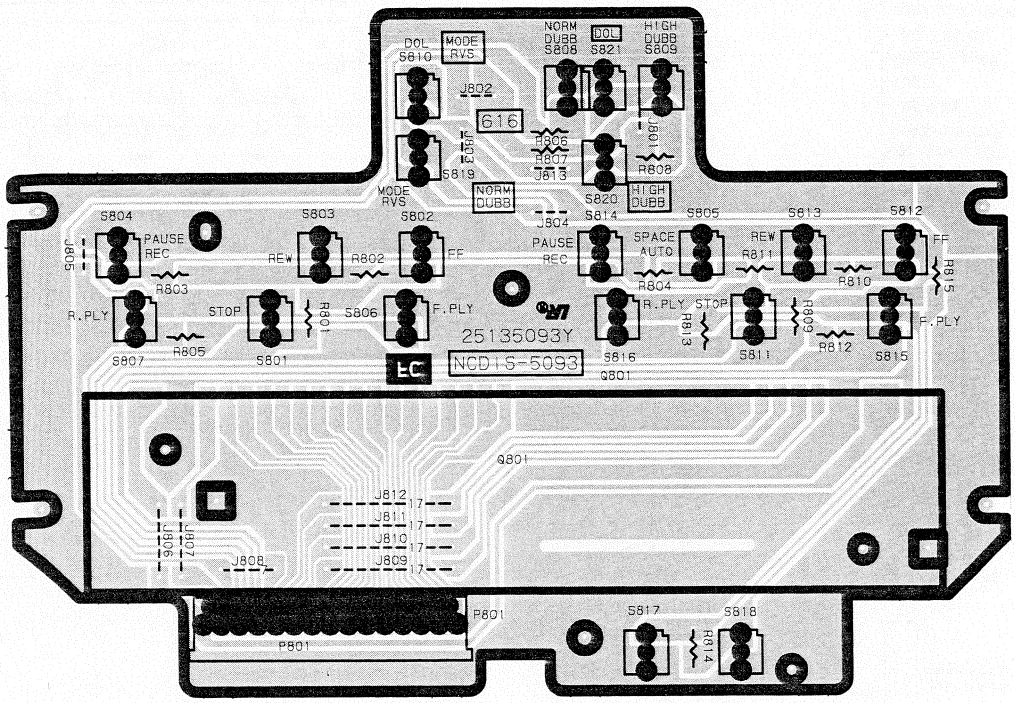
μPC1330HA

Pin No.	Function
1, 9	PB. signal
2	GND
3, 7	REC signal
4	REC/PB SW control
5	GND
6	+B
8	GND

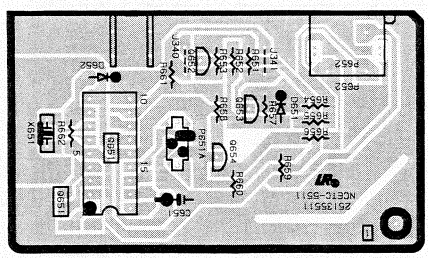
BA3416BL (Dual Playback Preamplifier)



PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE

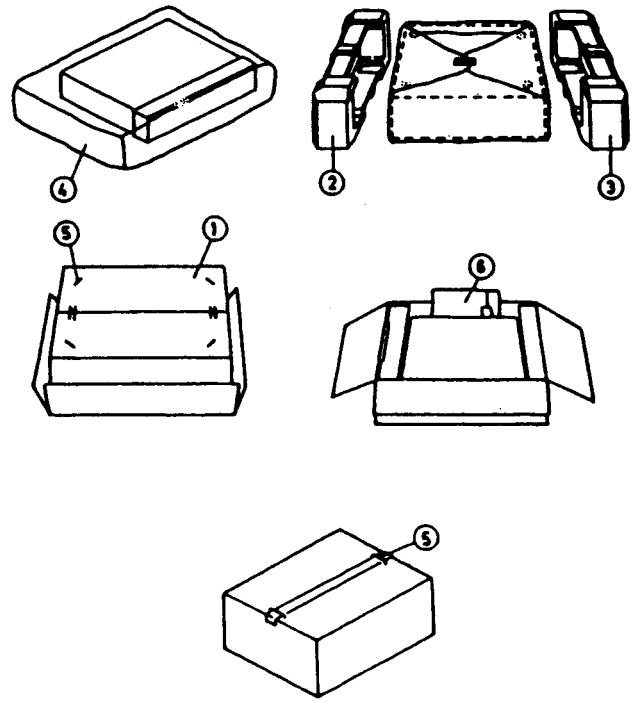


DISPLAY CIRCUIT PC BOARD



BUS LINE PC BOARD

PACKING VIEW



REF.NO.	PART NO.	DESCRIPTION
1	29052882Y	Carton box
2	29091636-1BY	Pad L
3	29091637-1BY	Pad R
4	29100034-1Y	650 × 850mm, Styren bag
5	282301	Staple
6	Accessary bag ass'y	
	29342116Y	Instruction manual U7
	2010244Y	Connection cord
	29100097-1Y	350 × 250mm, Styren bag
	29365034Y	Warranty card <B1>
	29361759Y	Label CUL <AH>

NOTE:
<AH> : U.S.A., Canadian model only
<B> : U.K. model only
<B1> : Australian model only
<C> : European model only